



Welcome to AEDC

A meeting with our Stakeholders

...

...seeking a new level of information sharing and interdependence...

28 Feb 02

DAVID J. EICHHORN
Colonel, USAF
Commander



What's important to you as a stakeholder is important to us ...

- We are committed to seeking the most effective, productive and efficient arrangement for management, operations and maintenance of this national asset
- We have a major window of opportunity to transform and make significant improvements with our upcoming competition of our support contracts

We need your ideas ...



We need your ideas on how AEDC can

- **Be a better supplier of RDT&E services ... provide increased stakeholder value**
- **Provide more effective, productive and efficient operations**
- **Foster a new level of information sharing and interdependence**
- **Maximize the opportunities from our upcoming support contract re-competition**



Desired Outcome...understand your input to the following questions

- What is changing in your business that we should consider?
- What services or capabilities do we need to change or improve?
- What management tactics, techniques, and procedures work for you and your thoughts on how they might work at AEDC?
- What are your ideas on increased information sharing and enhanced cooperation?
- How can we ensure continued trust in AEDC if we open up our Organizational Conflict of Interest (OCI) provision?
- What should we be emphasizing in this competition that will enable us to be a better T&E provider?



Key Re-competition Milestones

- **Release Draft RFP** Aug 02
- **Release Final RFP** Jan 03
- **Contract Award** July 03
- **Phase-in** Aug 03
- **Contract Execution** Oct 03



Our Plan for the Day



Today's Agenda

-
- 0800 - 0930 Group discussion**
 - 0930 - 1000 Group windshield tour of AEDC**
 - 1000 - 1215 Breakout sessions (four groups) -
hosted by our Business Area Managers**
 - 1215 - 1300 Lunch**
 - 1300 - 1400 Out briefs from the breakout sessions**
 - 1430 - 1530 Stakeholder breakout session -
special topic**
 - 1530 - 1600 Out brief from break out session**
 - 1600 - 1700 Wrap up**
 - 1800 Dinner at the Arnold Lakeside Club**

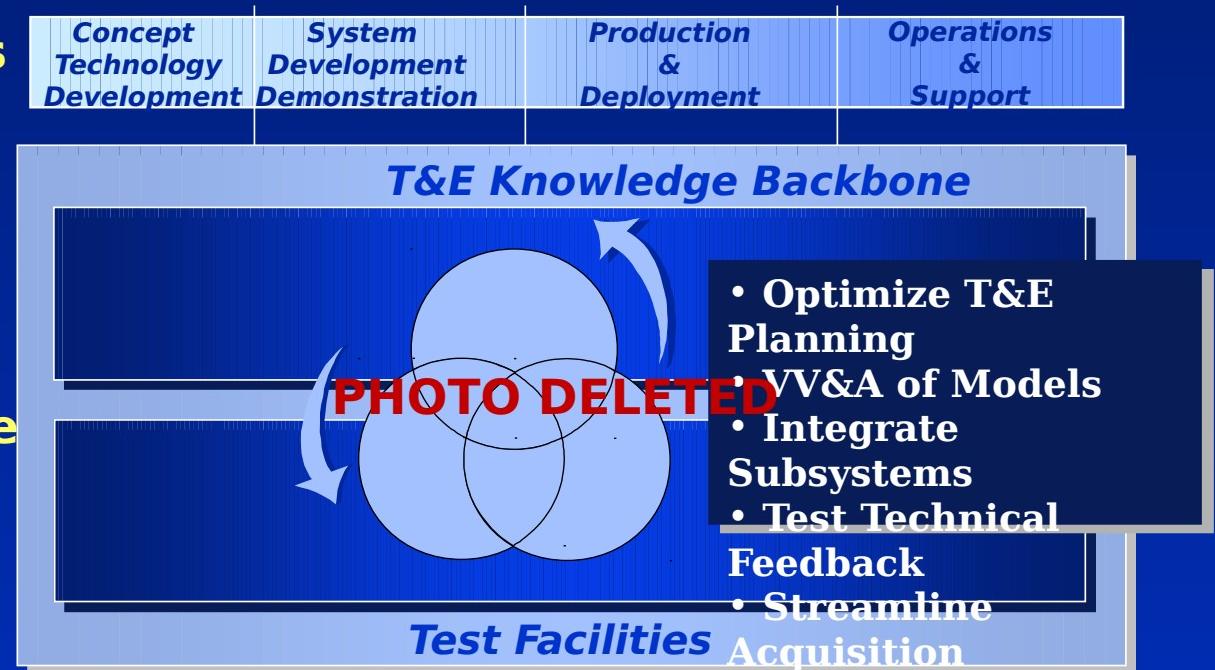


VISION



VISION - T&E Enterprise

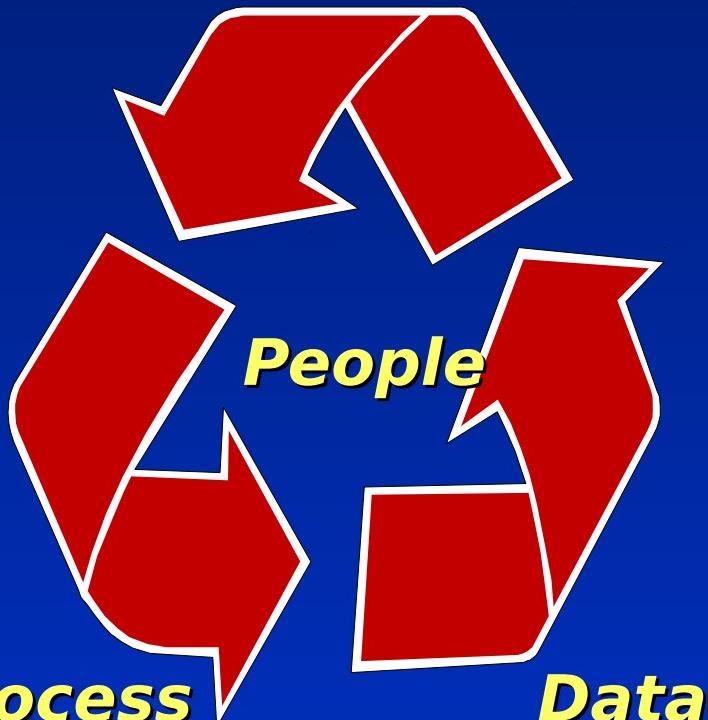
- **Integrating people, processes, and infrastructure across organizations and acquisition phases**
- **Utilizing a T&E Knowledge Backbone to manage knowledge for decision making and streamlining the acquisition process**
- **Increasing flexibility for spiral development**





VISION - Interconnected

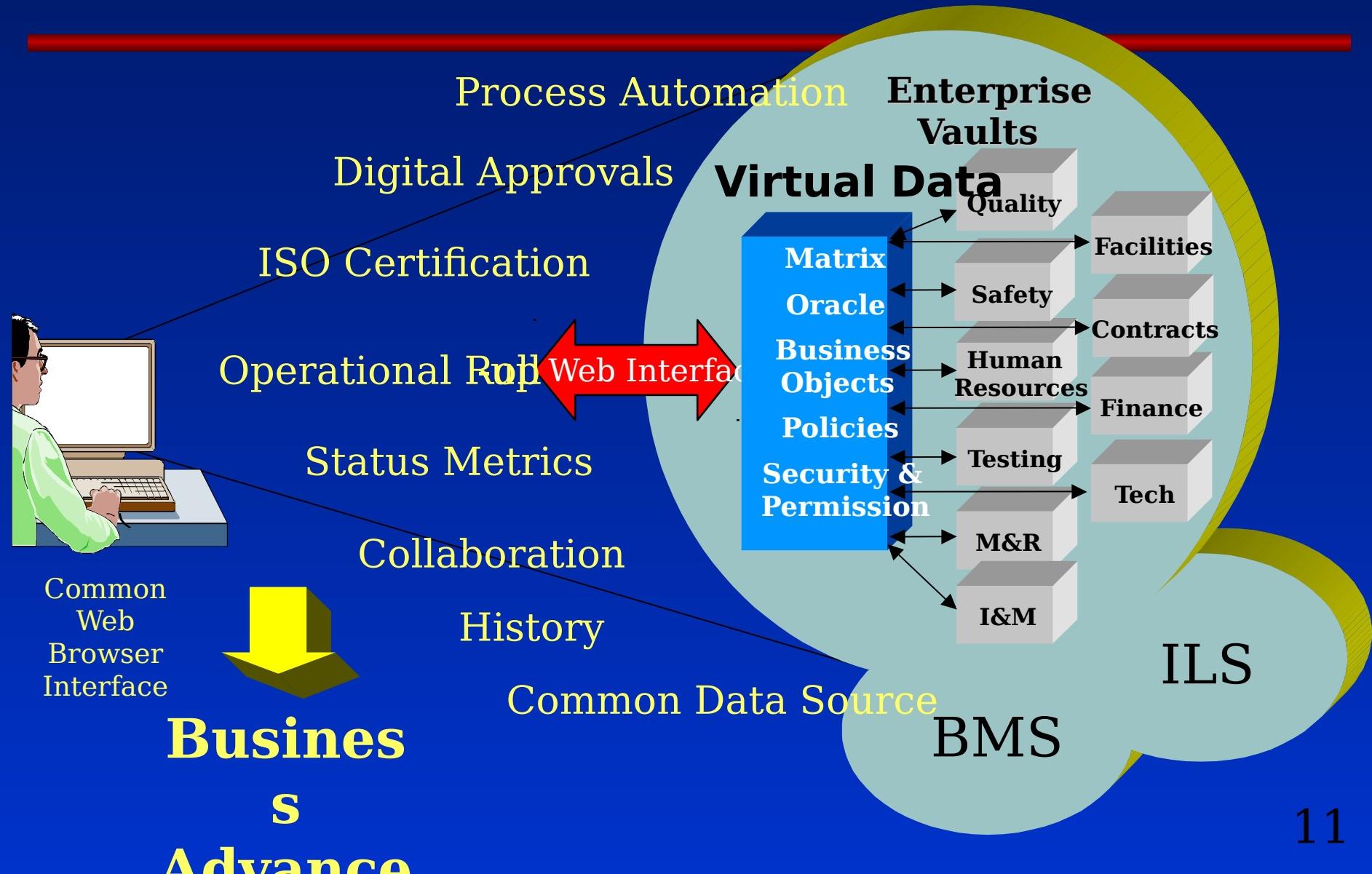
Purpose



- **e-Business approach to enterprise management**
 - **Virtual data and knowledge transfer**
 - **Virtual business process management**
- **Collaboration with stakeholders and customers**
- **Focus on purposeful application of Information Technology**



VISION - e-Business at AEDC





Strategic Thrusts

Critical Success Factors

Satisfy Our Customer's Needs (ST1)	Improve Business Practices (ST2)	Sustain Technological Superiority (ST3)	Operate a Quality Installation (ST4)	Enable Our People to Excel (ST5)
Deliver Customer Expectations	Accurately Identify and Allocate Costs	Maintain Facility and Support System Health and Readiness	Maintain Environmental Compliance	Match Skills to Requirements
Improve Customer Relationships	Control and Improve Processes	Optimize Facility Capacity and Utilization	Maintain Safety Standards	Maintain a Motivated and Professional Work Force
Effectively Market and Sell		Plan, Program and Execute Integrated Investment Efforts	Provide Quality Base Support Services	
Leverage Public and				



BACKGROUND



Mission of AEDC

Provide the nation with capability,
warfighters with tools, other test centers
& system program offices with data and
knowledge



Dual Mission

To provide our customers with the world's most effective and affordable aerospace ground test products and services

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To ensure ground test facilities, technologies, and knowledge fully support today's and tomorrow's



Arnold Engineering Development Center

CUSTOMERS
**DoD, Industry,
National,
International**

2,584 People

**63 / 27 / 14
Test Cells**

**\$290M FY02
Budget**

**\$7 Billion
Investment**

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**High Performance
Organization**

**White Oak
Site**

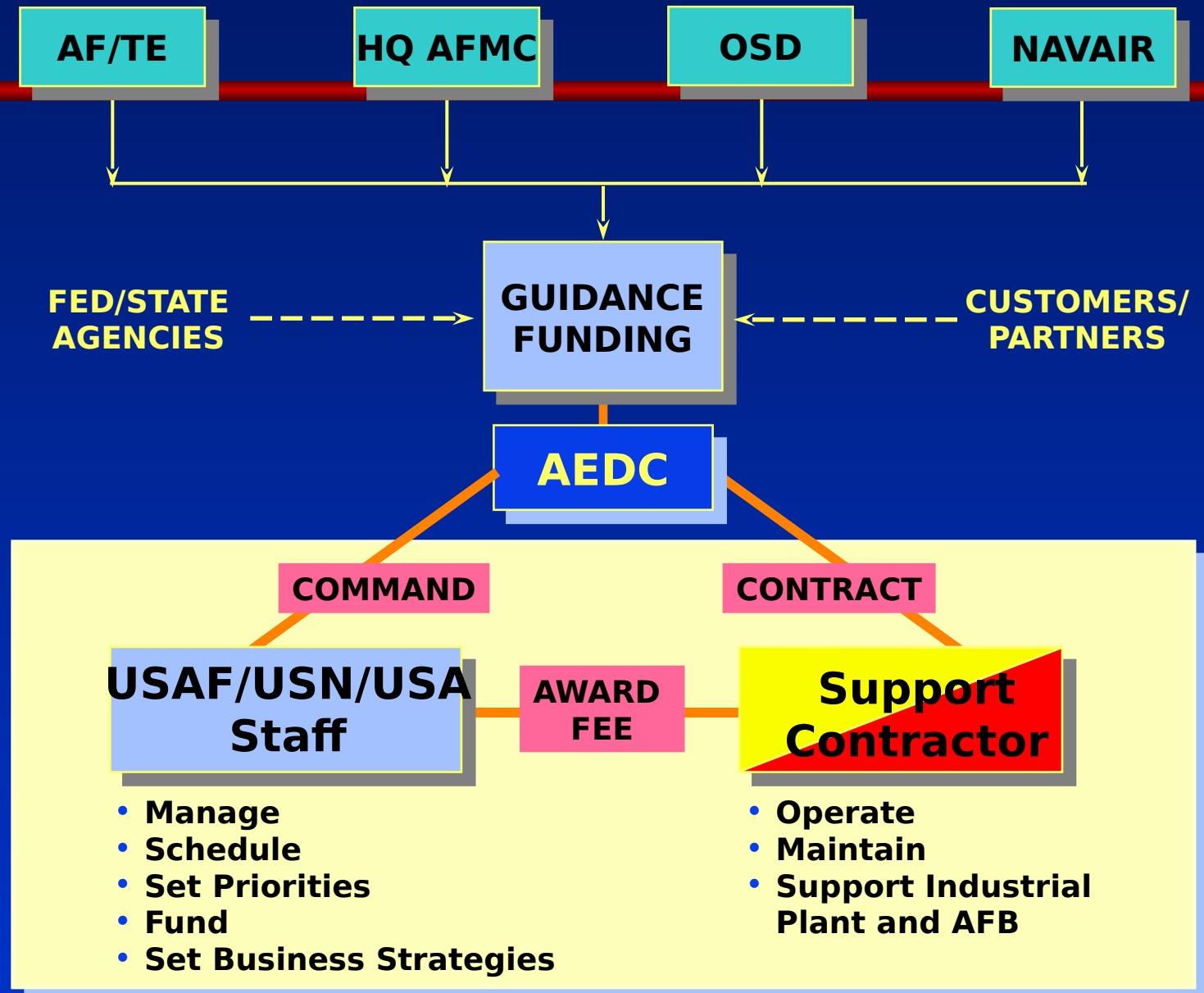


Business Model and History

- **Center Concept of Operation**
 - **Government management and direction (10% of people)**
 - **Contractor testing and support (90% of people)**
- **Contract History**
 - **1949 - Unitary Wind Tunnel Plan Act established AEDC**
 - **1950 - 1977 - Sole source to ARO, Inc. (CPFF,CPIF,CPAF)**
 - **1980, 1985, 1990 - Competitive Selection of 3 contractors (CPAF)**
 - **1995 - Competitive selection of 2 contractors (CPAF)**
 - **Test Support - Sverdrup Technology**
 - **Center Support - ACS (Joint Venture: CSC, DynCorp, Gen Physics)**



Management Structure





AEDC Model Roles & Responsibilities

(Current Contract Structure)



Government

- Strategic & programmatic direction
- What and when AEDC tests
- Interface with customers
- Workload
- Budgeting, prioritization & allocation of funds
- Contractor evaluation

Test Support

- Test engineering
 - Wind Tunnels
 - Turbines
 - Rockets
 - Arc Heaters
 - Ranges
 - Chambers
- Test Technology
- Facility O&M
- Instrumentation
- Plant O&M
- Data reduction

Center Support

- Central computer
- Base support & maintenance
- Photo Lab
- Chem Lab
- PMEL
- Environmental
- Utilities
- Logistics
- Transportation
- Base security
- Fire protection

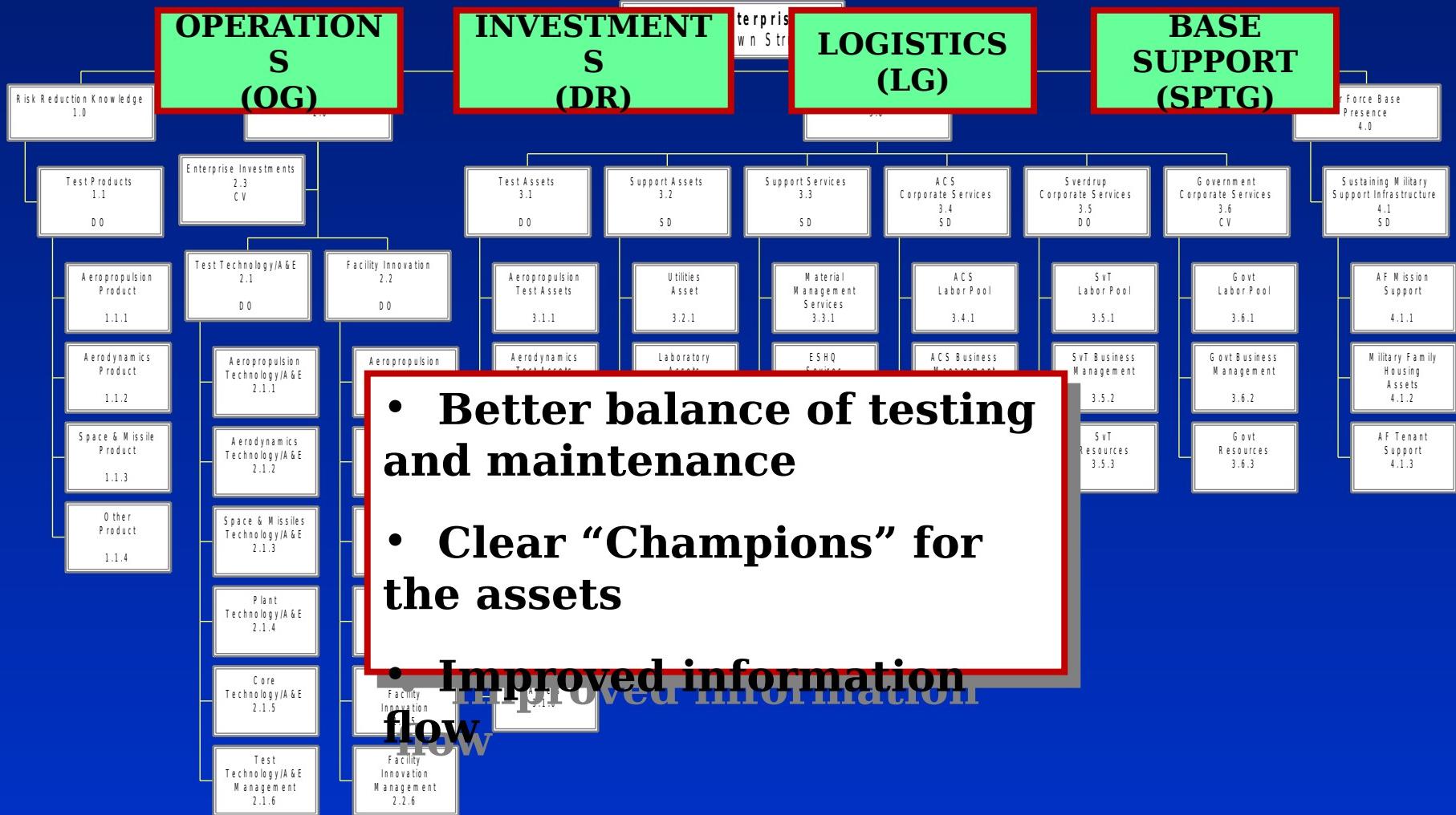


Current Work Breakdown Structure





Evolving the Work Breakdown Structure



- Better balance of testing and maintenance
 - Clear “Champions” for the assets
 - Improved information flow



Current Contract Structure

- **Competitive - Two contract efforts (Test & Support)**
 - Five-year contracts; with single 3-year option
 - Total contracts price (8-yr) - \$1.8B
 - Adjusted annually to match work load
- **Performance-based Cost-Plus-Award Fee contracts**
 - Six month award fee periods
- **Contract Resources**
 - Labor - 78%
 - Materials, services, taxes & other - 18%
 - Award fee - 4 to 5% (zero base fee)



Organizational Conflict of Interest

- Our requirement – assure objective analysis/work by our support contractors
 - Usually precludes support contractor(s) from design/development/production of any products tested at AEDC
 - Applies to teammates and affiliates
 - Common ownership the key issue
- Opening up provision with appropriate mitigation plans may allow greater competition for our contracts...*more opportunity for improvement and cost reduction initiatives*
 - We're evaluating experiences at other T&E locations
 - Your views are important

uring continued trust in AEDC is param



COST ACCOUNTING AND REIMBURSEMENTS



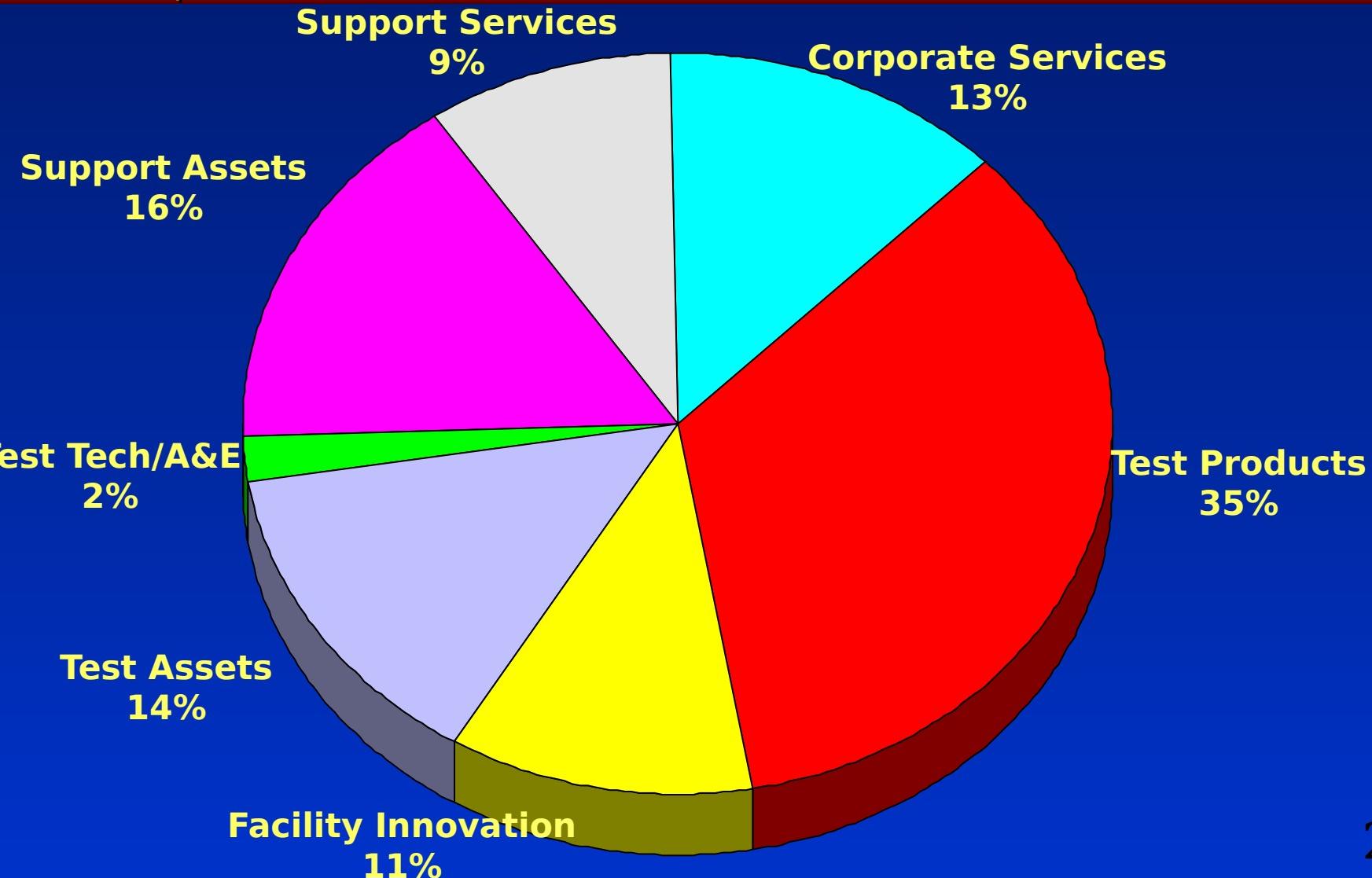
Purpose/Overview

- **Purpose**
 - **Provide a broad-based understanding of the financial regulatory framework that governs AEDC cost accounting practices and test customer cost reimbursements (a.k.a., billing)**
- **Overview**
 - **Numbers that define AEDC**
 - **AEDC's Business Environment**
 - **Identifying Costs**
 - **Reimbursement Policy**
 - **The Capacity Model**
 - **Product Service Rates**



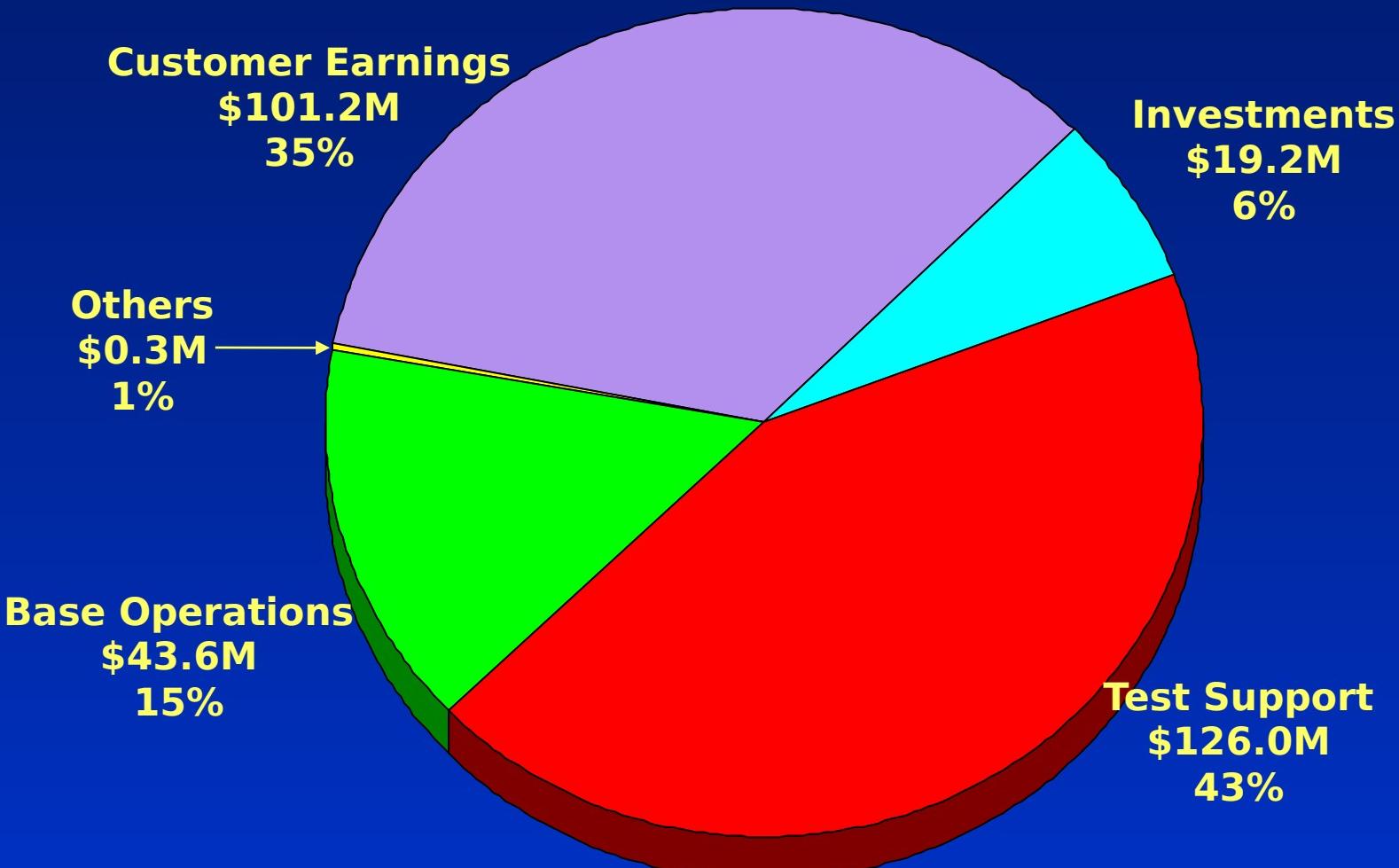
Numbers That Define AEDC

Cost of Operations: FY02 TOA = \$290.3M





Numbers That Define AEDC Funding Sources: FY02 TOA = **\$290.3M**





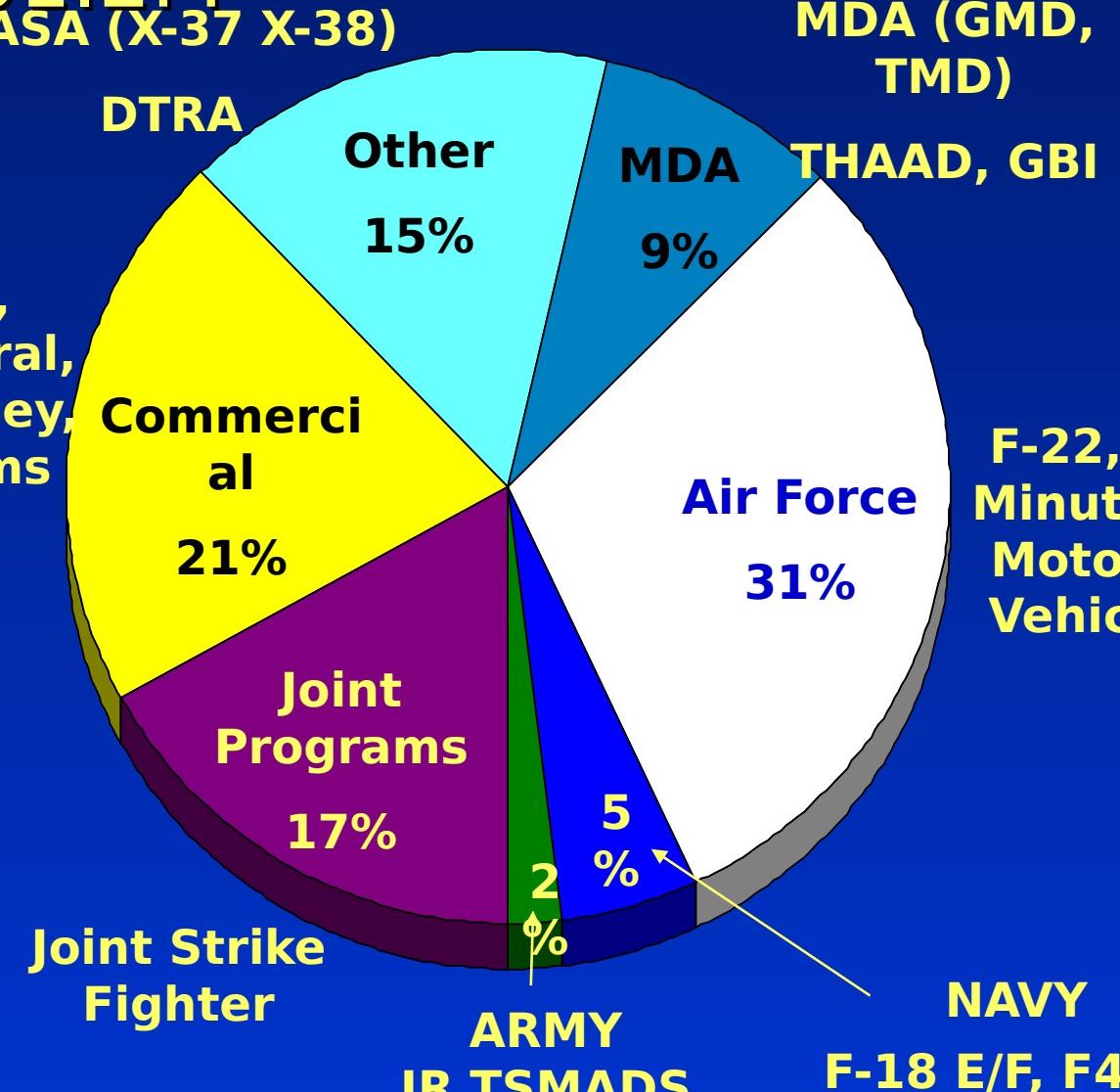
Numbers That Define AEDC

FY02 Customer Earnings =

\$101.2M

NASA (X-37 X-38)

Boeing, GE,
Lockheed, Loral,
Pratt & Whitney,
Rolls, Williams





AEDC Business Environment

- **Customer Requirement: Value**
 - Quality Test Data
 - Schedule and Performance Flexibility
 - Rate Stability/Predictability
- **DoD MRTFB**
 - Full Cost Accounting For All Customers
 - Cost Reimbursement (Billing) - Varies by Customer Type
 - No Profit/Loss (Break Even)



AEDC Business Environment Private & Government CAS Virtually Identical

Private Sector

IRS, SEC Acts

Titles 12, 15, 20

FASB, IASC
(GAAP, FAS)

Entity Specific
(Reporting Standards,
Public Filings, etc.)

Trust

Public Law



U.S. Codes & Regulations



Financial Standard

Boards



Operating Guidel

Gov't Sector

CFOA, FMFIA,
FFMIA, etc.

Titles 10,31,39

GASB, FASAB
(SFFAC, SFFAS)

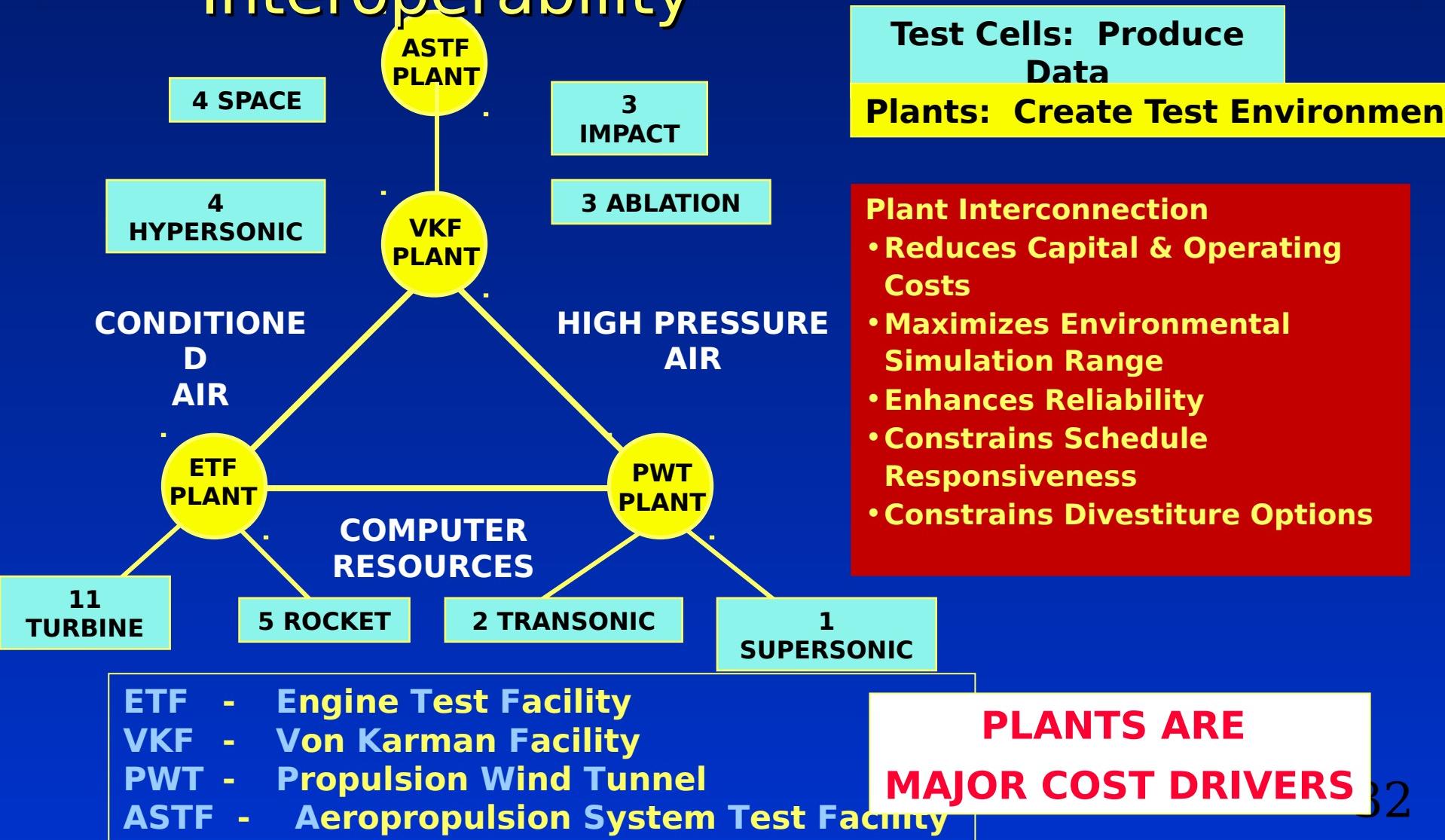
Agency Specific
(FMRs, Directives,
Instructions)

Consistently



AEDC Business Environment

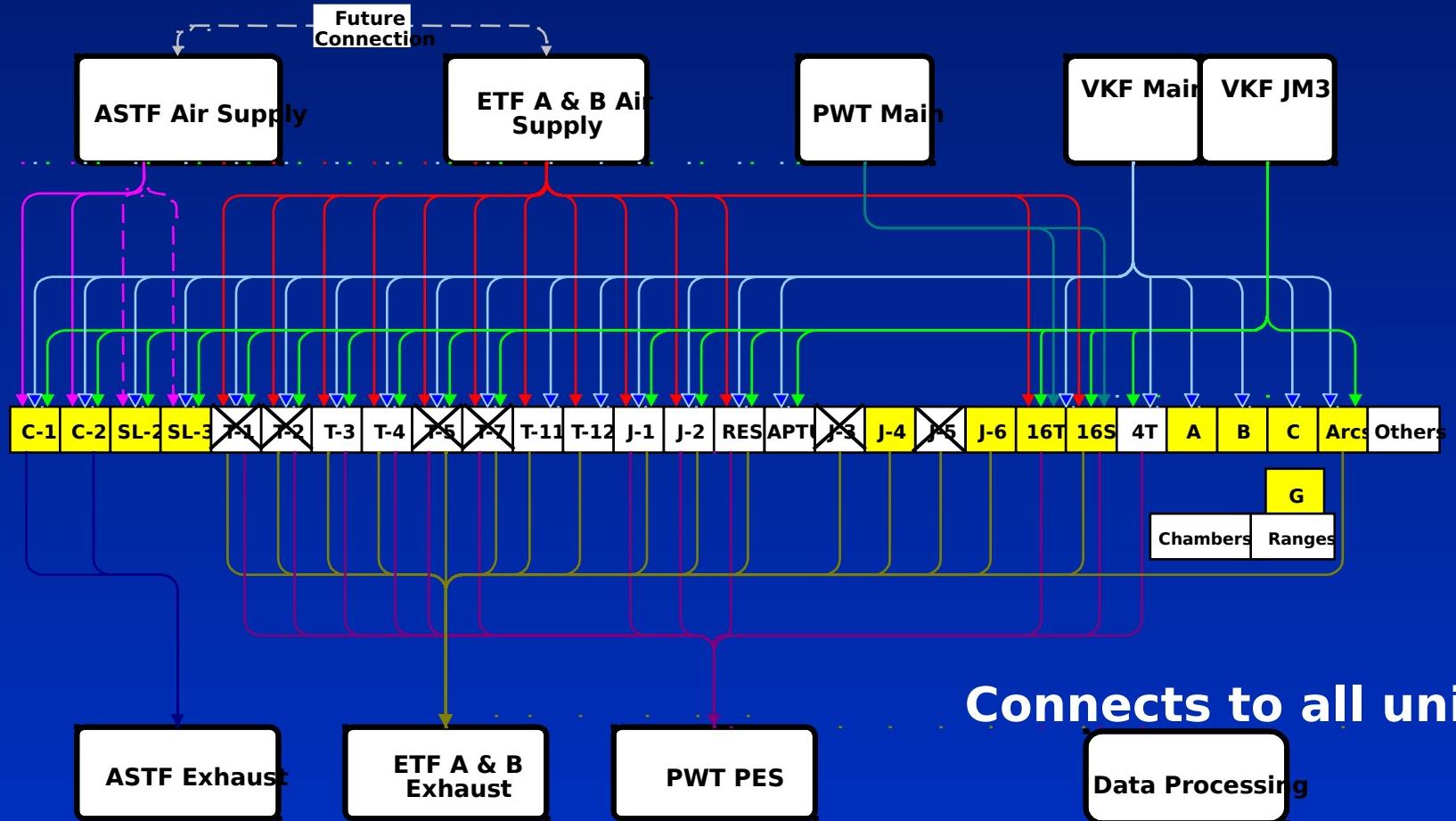
Cost Driver: Plant Interoperability





AEDC Business Environment

Cost Driver: Plant Interconnections3



= AEDC Unique Facility



Identifying Costs

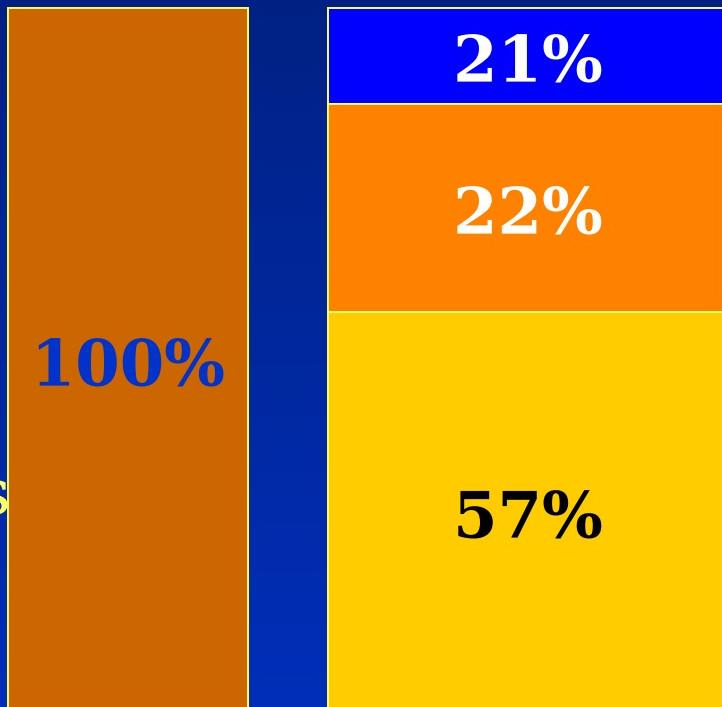
- **Full Cost Reporting**
 - **All Direct, Indirect, and Overhead Costs**
- **All Customers Pay All Direct Costs**
- **No Customer Pays Full Costs**



Identifying Costs

Cost Categories

Total
Cost
Of
AEDC's
Test
Operations



Overhead *
(Center Overhead)

Indirect *
(Test Indirect & Test
O/H)

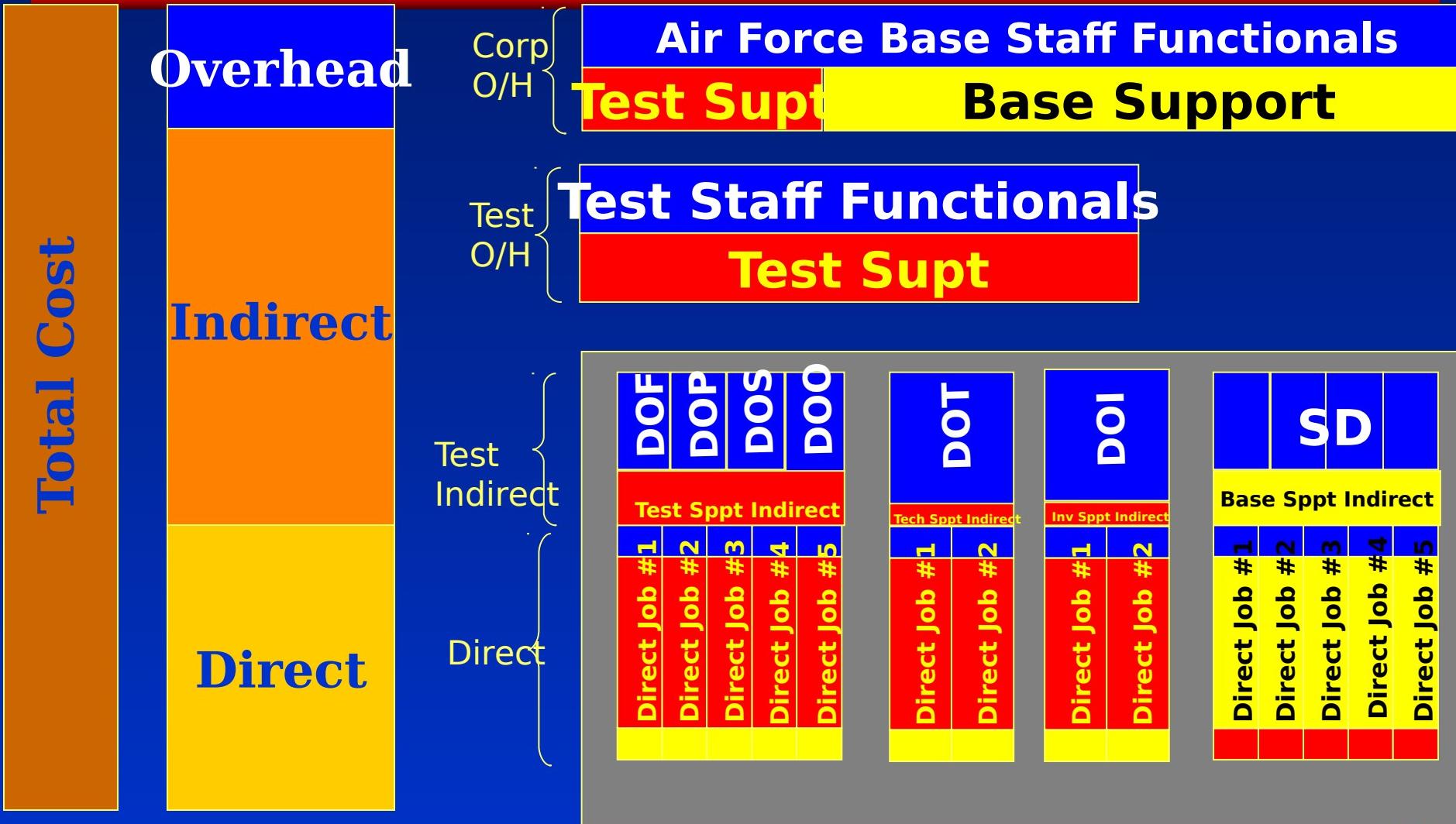
Direct
(Customer Funded)

* MRTFB and/or
Customer Funded 35



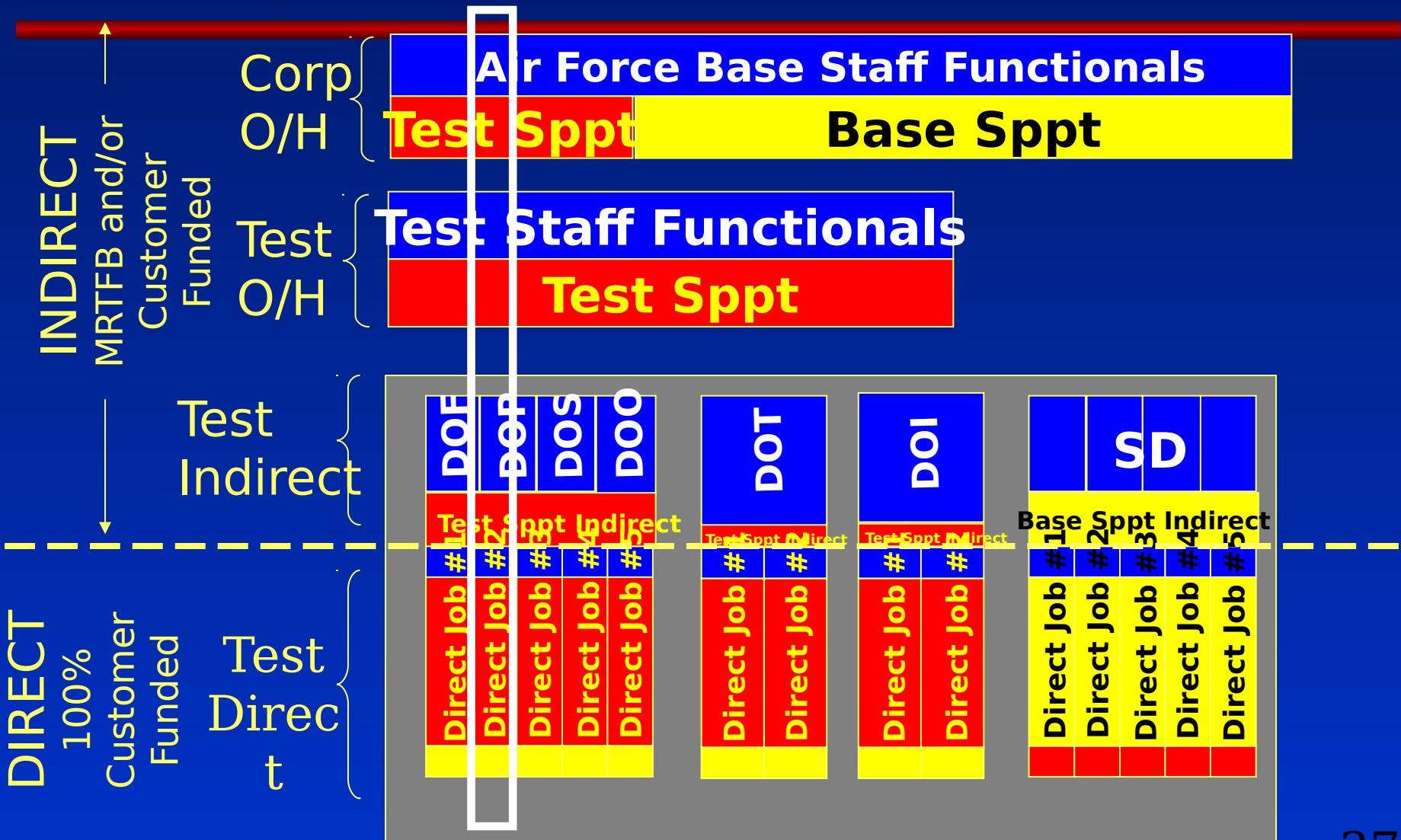
Identifying Costs

AEDC Accounting Entity





Identifying Costs Project “Full Cost”



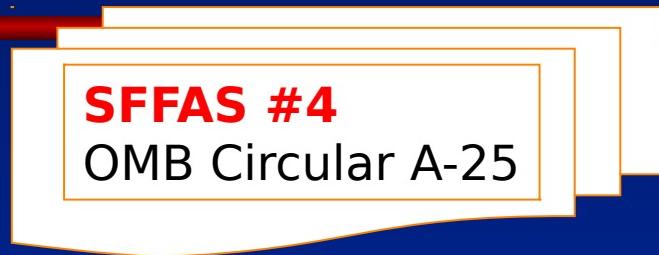


Reimbursement Policy

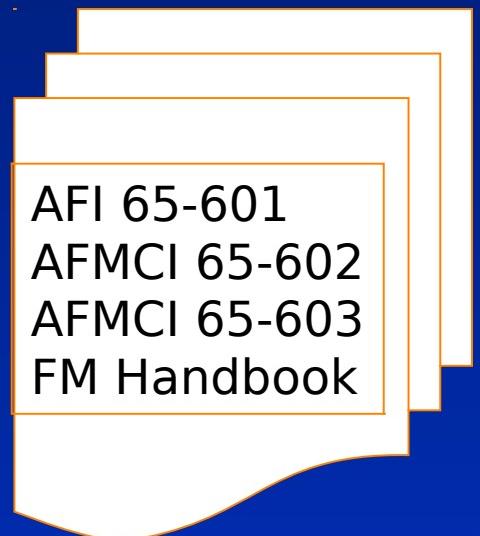
- AEDC Complies with SFFAS #4 “Cost Accounting” Standard
- Customers “Pay” All Test Direct Plus Appropriate Indirect/Overhead Cost as Determined by Customer Category and DoD Reimbursement Rules



Reimbursement Policy



DoDD 3200.11DoD
FMR 7000.14-R, Vol. 4
FMR 7000.14-R, Vol. 11A



10 U.S.C. §2681
Gansler Letter, 13 Mar 98
Oliver Letter, 8 Sep 98

Zook Letter, 18 Mar 98
Eckhardt Letter, 1 Apr 98



Reimbursement Policy

Total vs. Customer Billing

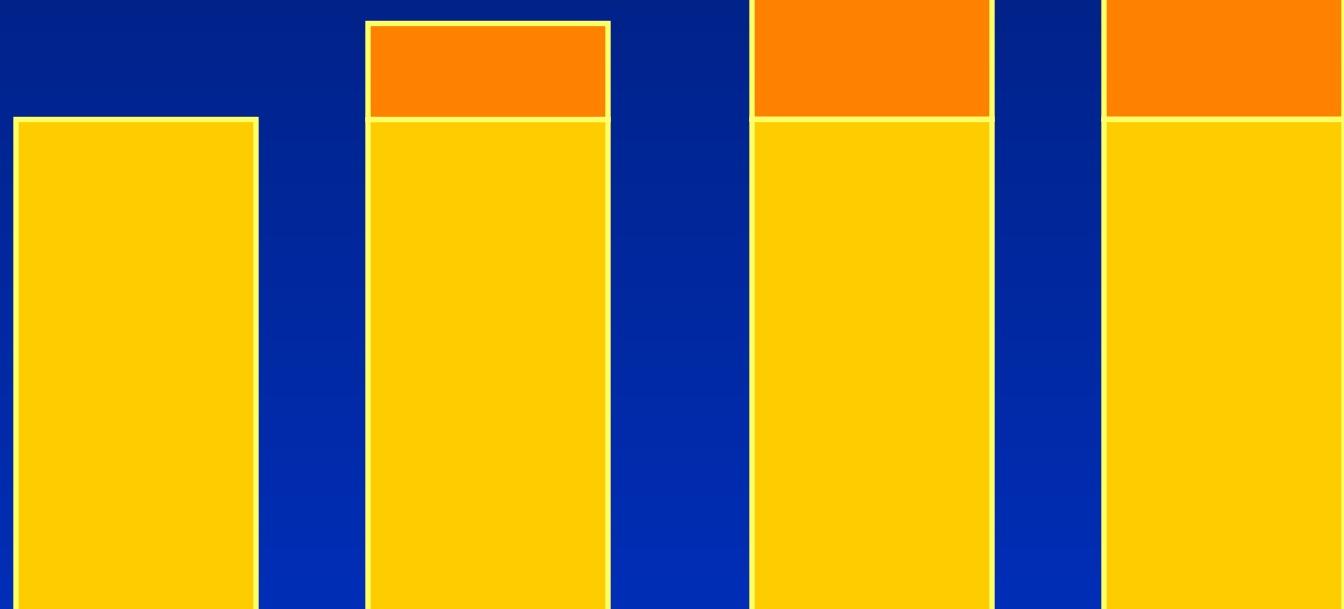
Overhead

Test
Indirect
& O/H

Direct

Total
Project
Cost

WHO PAYS WHAT?



Reimb.
from
DoD

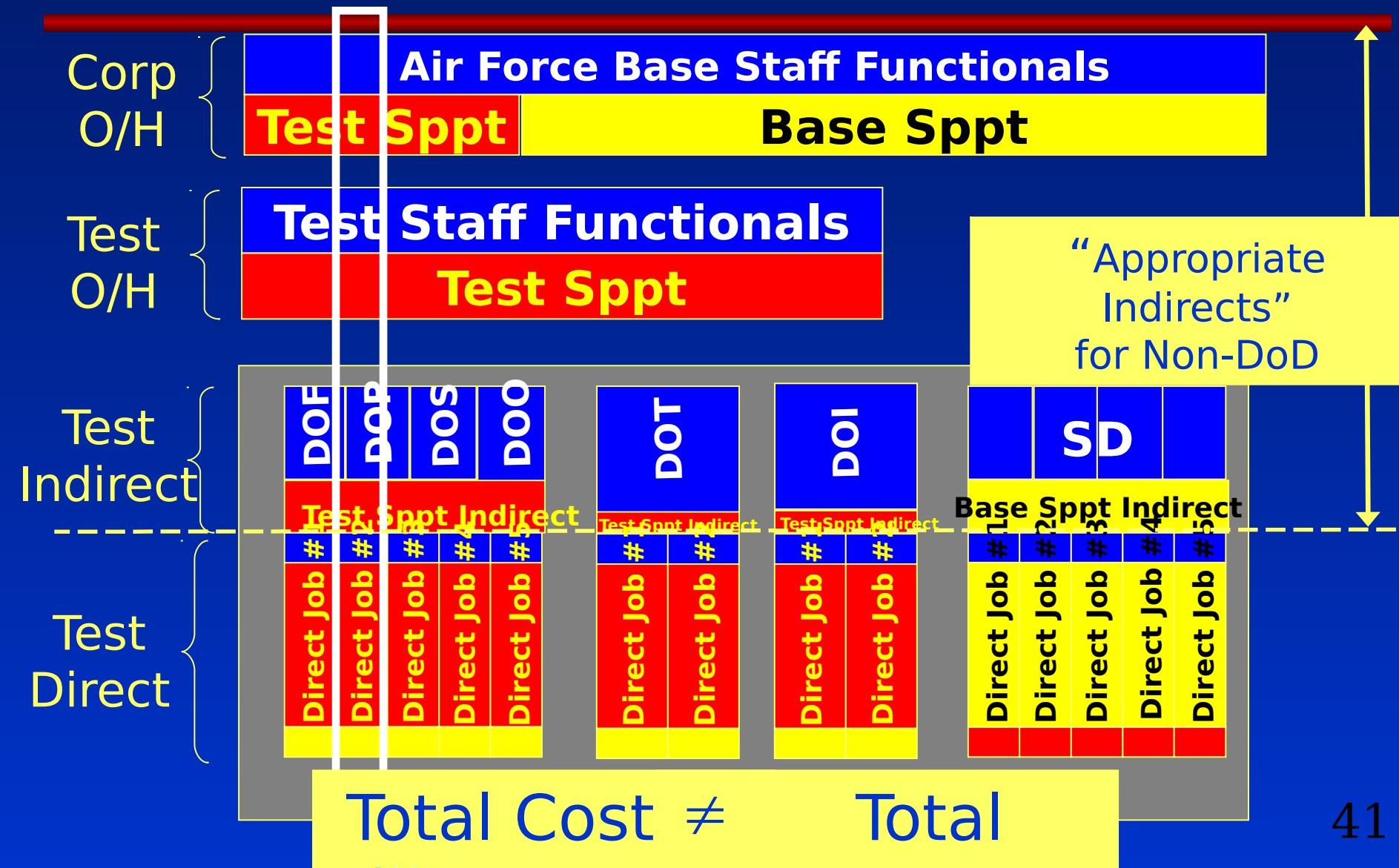
Reimb. From
Non-DoD;
Gov't
(NASA State Log)

Reimb. from
Non-Gov't
(Commercial)

Reimb.
from
FMS⁴⁰



Reimbursement Policy Full Cost Revisited





The Capacity Model

Capacity Concepts

- **Workload**
 - All Projected Current Year Test
 - DoD + Non-DoD Gov + Commercial + FMS
- **Capacity**
 - Current DoD Workload + Projected Future DoD Requirements (DoD Sizing Issue)
 - Excludes Non-DoD Gov + Commercial + FMS
- **Unused Capacity**
 - Capacity - Workload



The Capacity Model

Planning

[Projected Workload]

WORKLOAD
UNUSED CAPACITY

$$\text{RATES} = \frac{\text{CAPACITY}}{\text{COSTS}}$$

Execution

[As Add'l Workload Materializes]

WORKLOAD
UNUSED

**RATES
DO NOT
CHANGE**

- Add'l Workload Buys Down Unused



Product Service Rates

- **Rates Used to Recover Cost (UOH, AOH)**
- **Rates = Cost ÷ Capacity**
 - **Projected Annually**
 - **Validated Quarterly**
 - **Adjusted A/R to Recover \pm 5% at End of Year**
- **Capacity = Workload + Unused Capacity**
 - **Workload Funded by Customers**
 - **Unused Capacity Funded by MRTFB**
 - **Rate Stability within Relevant Range**



RESPONSE TO CUSTOMER NEEDS AND IMPROVEMENT INITIATIVES



Investment Decision Process

Requirements



SE/Asset Owner

- Validates
- Determines change to asset's health

Category	Probability					
	A Frequent	B Reasonably Probable	C Occasional	D Remote	E Extremely Improbable	F Impossible
I	①	①	①	②	③	③
II	①	①	②	③	③	③
III	②	②	③	③	③	③
IV	③	③	③	③	③	③



Business Areas

- Assess impact to mission
- Prioritizes requirements

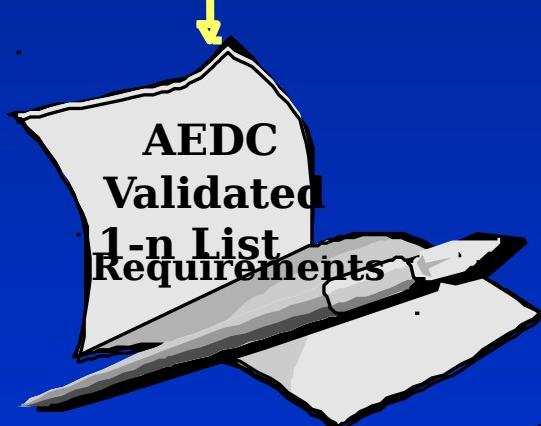


Functionals (Champions)

- Validates and prioritizes requirements
- Based on mission impact
- Operational risk management

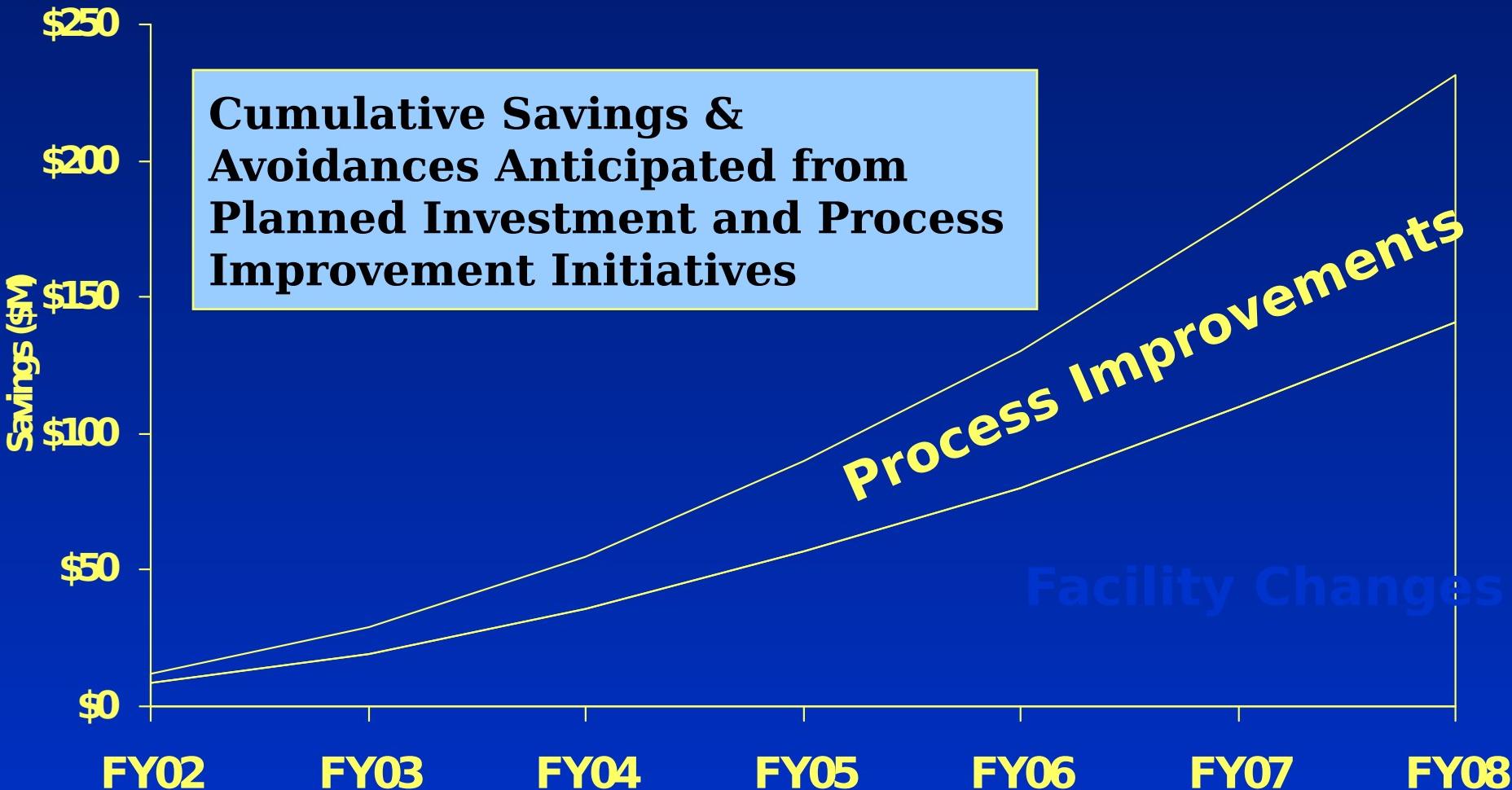
Corporate Board

- Decision making





Improvement Initiatives





Examples of Investments Being Made

Test Operations Modernization & Project (TOMIP)

- ETF plant and control support automation
- Reduction in control rooms, personnel, and lost test time
- Completion in 2003

Propulsion Wind Tunnels Upgrade (PWT)

- Replace wind tunnel drive motors
- Modernize data acquisition system
- Improve flow quality
- Completion in 2004

Advanced Instrumentation & Control Systems (AIDACS)

- Fly-the-Mission testing of new generation weapon systems
- Data to customer in near real-time (Virtual Presence)
- Completion in 2007

Propulsion Consolidation & Streamlining (PC&S)

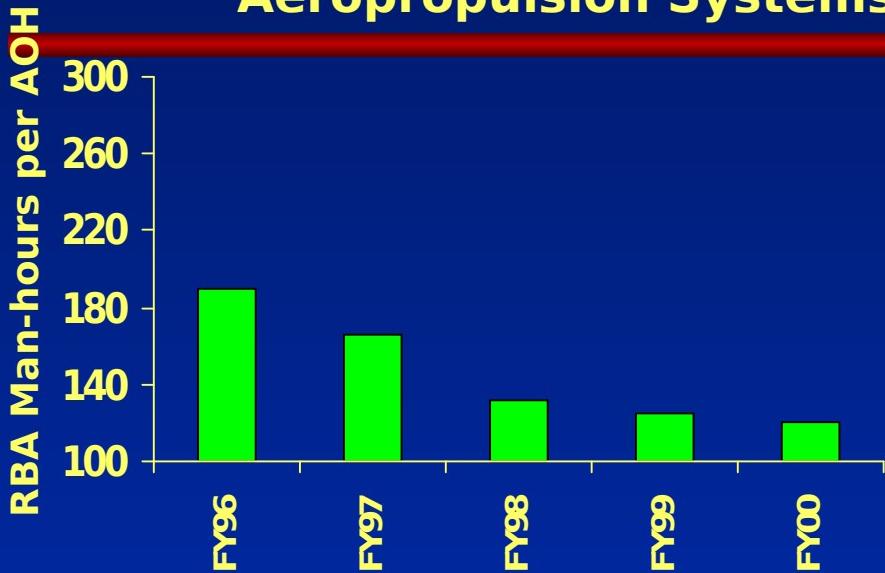
- Close ETF A & B plants
- Improve ASTF C- plant ops tempo
- Completion in 2009



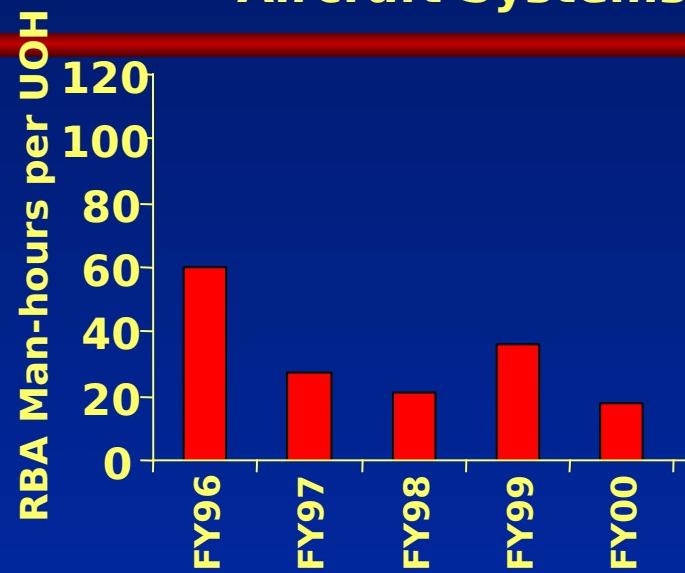
Operational Improvements



Aeropropulsion Systems

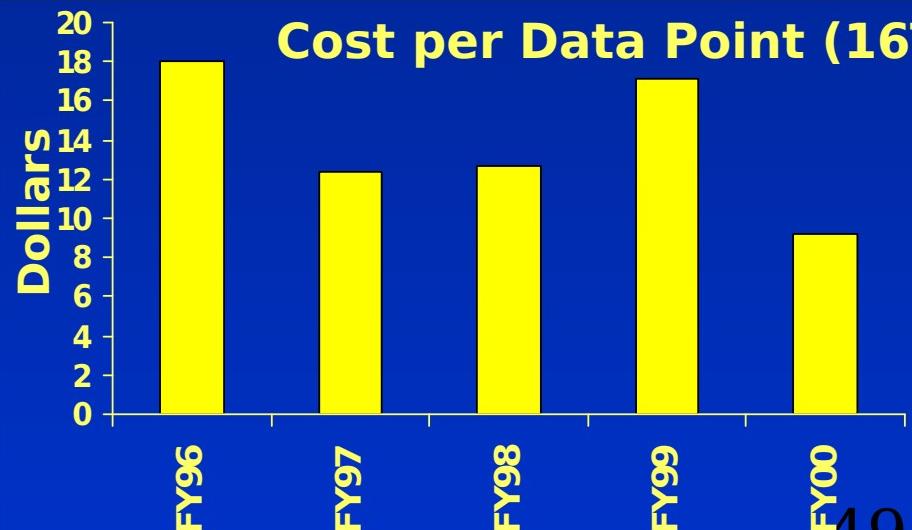


Aircraft Systems



- History of investments to improve data per operational hour
- Investments made to reduce direct personnel needed to run tests

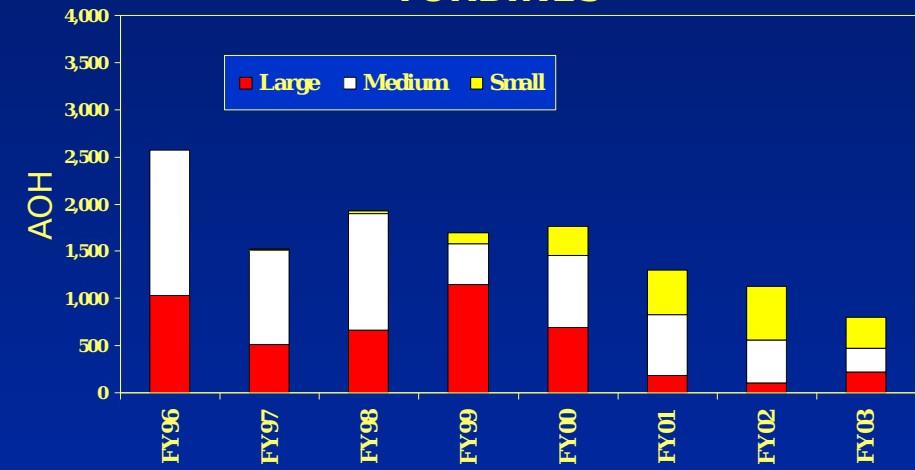
Cost per Data Point (16T)





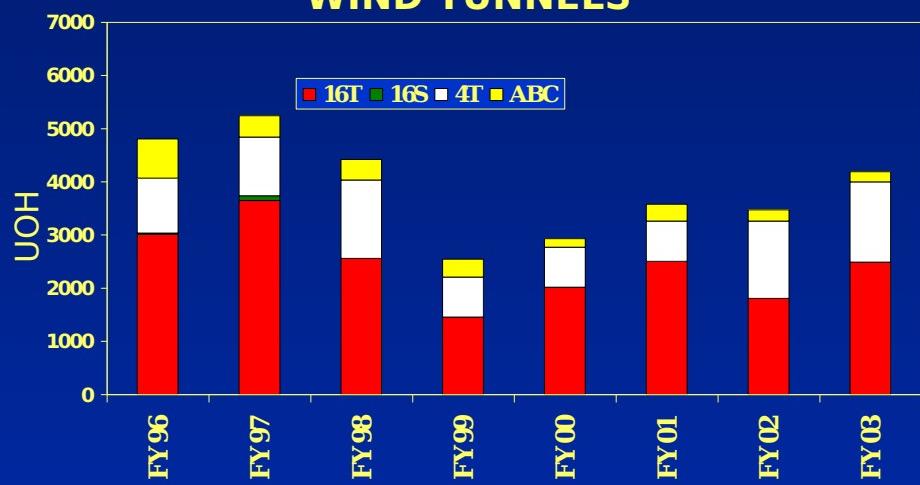
AEDC Test Workload

AEROPROPULSION SYSTEMS TURBINES



AIRCRAFT SYSTEMS

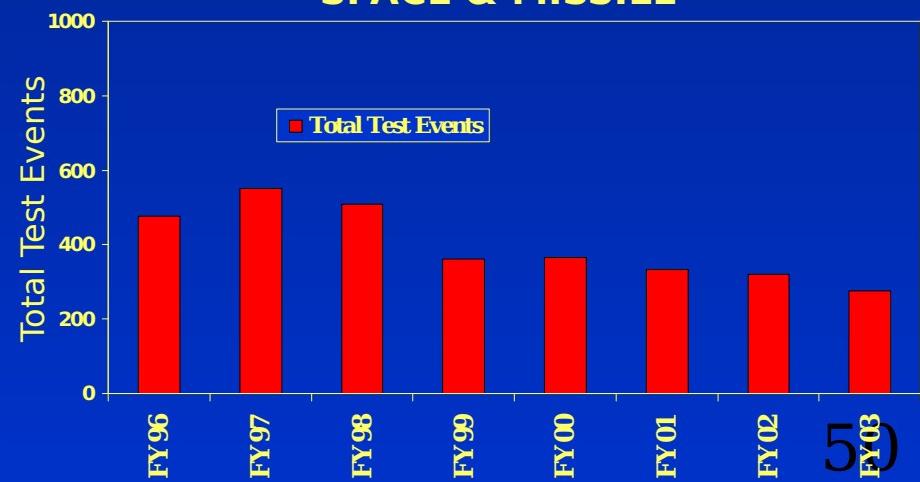
WIND TUNNELS



CONTRACTOR PERSONNEL STRENGTH

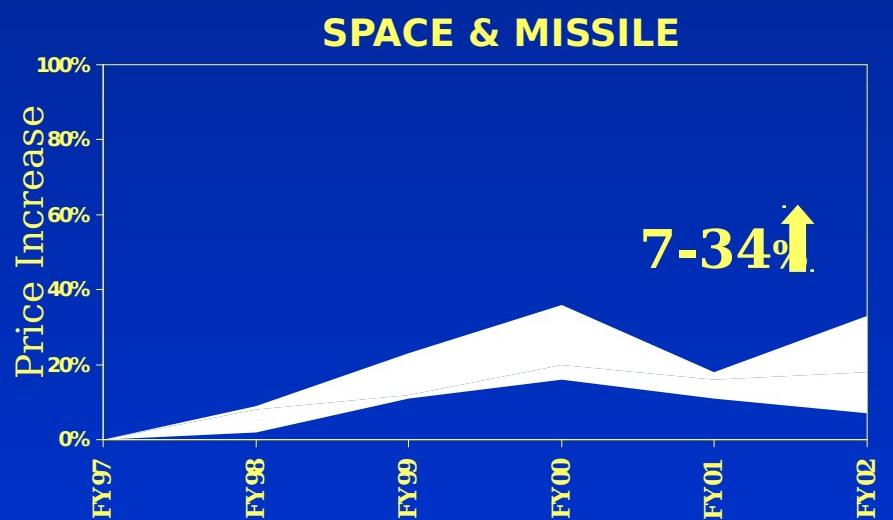
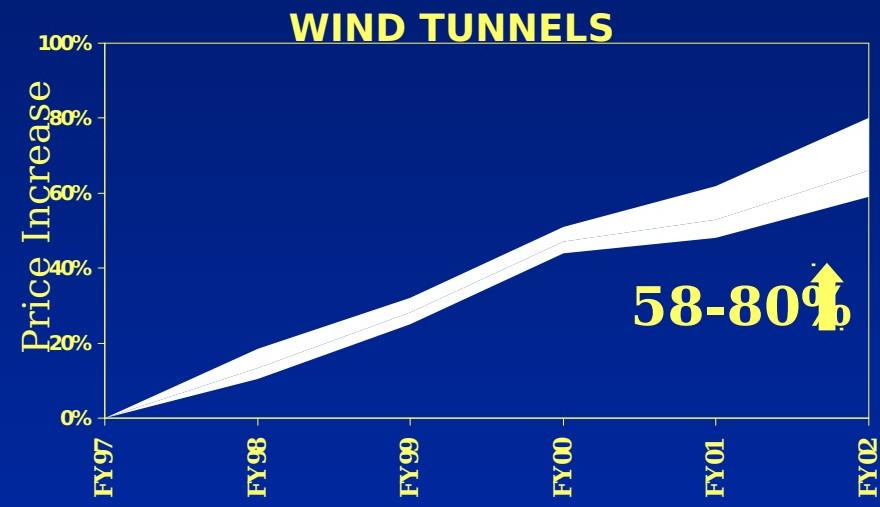
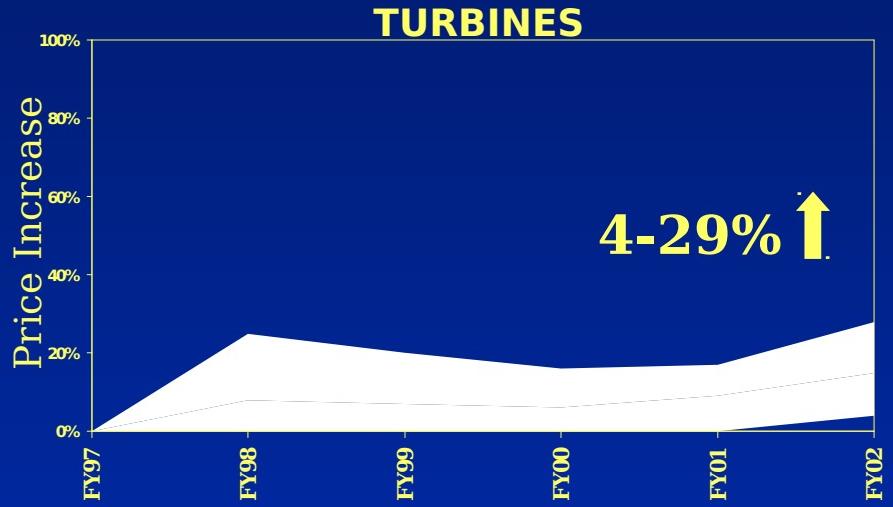


SPACE & MISSILE





AEDC Customer Price History (FY 97-02)



- **Price increases for standard tests (varies by test cell)**
 - Inflation accounts for 16% increase
 - Balance of increases from costed entity re-allocation
- **Improvement initiatives should result in stable or reduced prices**



DISCUSSION



Off to the AEDC Mission Area

“See you at 1215 for Lunch”